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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/560,550	12/12/2005	Marko Leinonen	915-007.173	2869

4955 7590 12/14/2007  
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EXAMINER
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LIU, HARRY K

ART UNIT	PAPER NUMBER
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3662

MAIL DATE	DELIVERY MODE
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12/14/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

Application No.

10/560,550

Applicant(s)

LEINONEN ET AL.

Examiner

Harry Liu

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 1 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 27 July 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-31 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-31 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 7/27/2007 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>12/12/2005</u> | 6) <input type="checkbox"/> Other: _____  |

### **DETAILED ACTION**

This is a supplemental office action for handling the missed claim 31 in the previous office action (08/06/2007). The period for response is reset to **one month** based on MPEP 710.06 begins with the mailing of this action.

#### ***Claim Rejections - 35 USC § 112***

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 8, 24 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for applying attenuation based on received cellular signals, does not reasonably provide enablement for applying attenuation based on received GPS signal (2<sup>nd</sup> frequency band) in cellular receiver (1<sup>st</sup> frequency band). The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to use the invention commensurate in scope with these claims. The specification does not disclose cellular receiver will receive GPS signals.

#### ***Claim Rejections - 35 USC § 103***

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

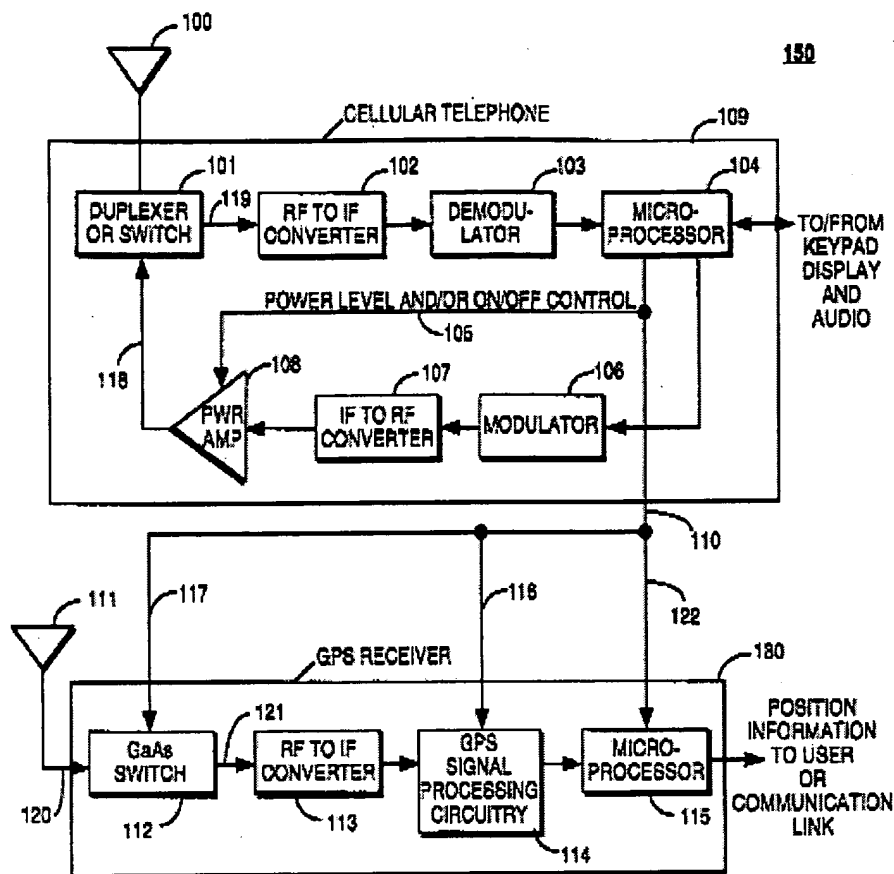
(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

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invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-9, 12-31, are rejected under 35 U.S.C. 103(a) as being unpatentable over Krasner (6107960) in view of King (2004/0239559).

Regarding claims 1, 19, 31, Krasner discloses a communication system transmitter (column 1, lines 56) for transmitting signals via a radio interface in a first frequency band (cellular band), a receiver for receiving signals with attenuation component (switch 112 in Fig. 2 below) for attenuating signals received, a controlling portion (microprocessor 115) setting an attenuation for received signals with a higher value in case transmitter is transmitting (power control signal 105) (column 7, lines 1-28), with a lower level if transmitter is not transmitting wherein higher level is sufficiently high to prevent an evaluation of attenuated received signals. Krasner discloses using power level control on limiting transmitter amplifier or programming GPS receiver. Krasner does not specifically disclose attenuating received signals at a sufficient level to prevent distorting it. However, King teaches use of attenuation component (AGC ,paragraph 0005) in attenuating received GPS signals to a suitable power levels for processing by GPS receiver. It would have been obvious to modify Krasner with King by incorporating a specific variable attenuation device (in place of switch 112) in order to focus one factor instead of taking care of two (transmitter and receiver part) at the same time.



**FIG. 2**

Regarding claims 2, 20, Krasner as modified by King discloses a communication system transmitter includes a variable amplifier for amplifying transmitting signals but fails to disclose the attenuation increase with transmitter amplification increase. However, King teaches that attenuation component (AGC circuit) tends to increase attenuation (reduce strength) when the transmitter power level is high. It would have

been obvious to modify Krasner with King by incorporating the algorithm of increasing attenuation when amplification of transmitter increases.

Regarding claims 3, 21, Krasner discloses the controlling portion is located in claimed communication system and receiver section since it is a combined device (claim 3). Krasner as modified by King is using an automatic gain control combined with system transmitter (claim 21).

Regarding claims 4, Krasner discloses the controlling portion (micro processor 104 and 105) includes a part of communication system and a part of receiver section (claim 4).

Regarding claims 5-6, 22, Krasner as modified by King discloses the attenuation component used is an automatic gain control and the control determined based on power level of transmitter and GPS received signals (column 7, lines 1-28) (claim 22).

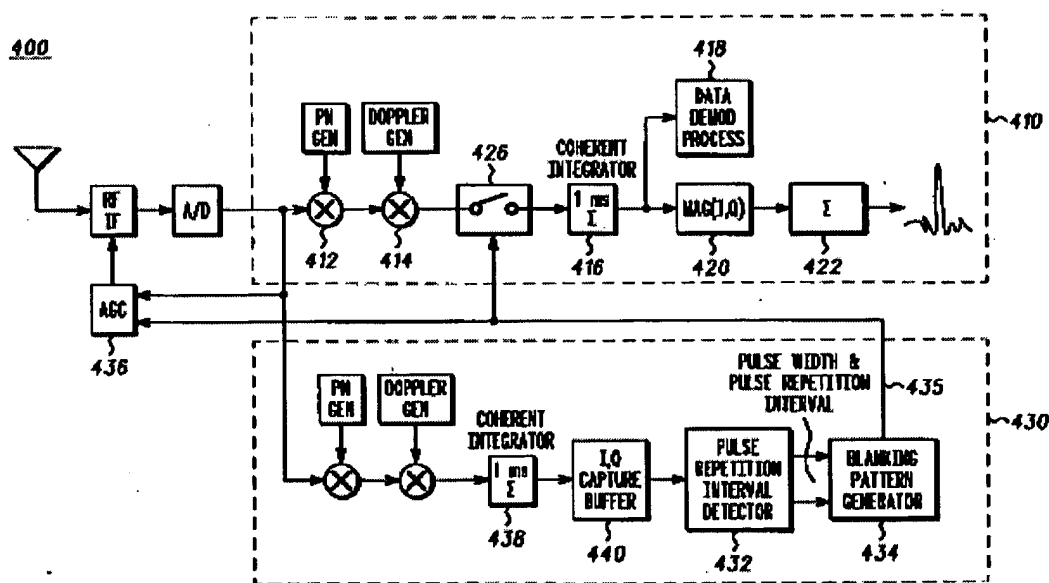
Regarding claims 7,23, Krasner as modified by King discloses communication system includes a receiver (cellular transceiver) receiving first frequency band (cellular band) and inherently the controlling portion determines an attenuation based on power level of signal received by communication system receiver. A cellular device amplifier increases transmitting signal when the received signal is weak and vice versa. It is obvious that controlling attenuation is based on received power.

Regarding claims 8,24, Krasner discloses that attenuation is based on power level of signals received in cellular band but fails to disclose it is also based on GPS signal received in cellular receiver. However, it is known that GP signal is close to cellular PCS/DCS system, it is possible (though not very likely since the power level is

low) to receive GPS signals in a cellular receiver. It would have been obvious to also determine attenuation based on claimed situation in order to take one more condition in determining attenuation. A strong GPS signal received in cellular receiver is an indication of necessary attenuation of GPS signal should be implemented.

Regarding claims 9,25, Krasner as modified by King discloses use of AGC which is a variable gain attenuator.

Regarding claims 12-13, Krasner as modified by King discloses attenuating component (AGC 436) is external to GPS receiver (see FIG. 4 below) and it is a variable amplifier.



**FIG. 4**

Regarding claims 14,27, Krasner discloses RF circuit which involves LO in detuning the signals received by antenna.

Regarding claims 15,26,28, Krasner as modified by King discloses attenuating GPS signal using AGC. An AGC will attenuate signal in its operating voltage or amplification.

Regarding claim 29, Krasner discloses attenuation happens at switch which is at one of a radio frequency (column 7, lines 33-35).

Regarding claim 30, Krasner as modified by King discloses attenuated signal which is evaluated to have a sufficiently high power level (power levels suitable for processing by the GPS receiver, paragraph 0005).

5. Claims 10-11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Krasner (6107960) in view of King (2004/0239559), as applied to claim 1 above and further in view of Ford (6728637).

Regarding claims 10-11, Krasner as modified by King discloses variable gain attenuator but fails to disclose it is an arranged between an amplifier and processing portion (claim 10) or attenuating component is integrated with at least one claimed component in an IC. However, Ford teaches use of AGC in between amplifier (LNA 200) and processing portion (signal processor 204, FIG. 2) and the whole circuitry is on integrated circuit (column 4, lines 32-45).



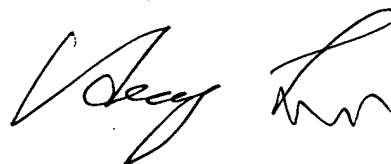
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**Conclusion**

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harry Liu whose telephone number is 571-270-1338. The examiner can normally be reached on Monday -Thursday and every other Friday..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-270-2338.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Harry Liu  
Examiner  
Art Unit 3662  
November 29, 2007



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